REMARKS

Claims 1-31 remain pending in the application. Reconsideration is respectfully considered in light of the following remarks.

Section 103(a) Rejections:

The Office Action rejected claims 1, 2, 6, 12, 13, 15, 16, 18-26 and 28-31 under 35 U.S.C.§ 103(a) as being unpatentable over "RaQ a fine low cost Web server alternative" by Kevin Railsback (hereinafter "Railsback") in view of Gore, III et al. (U.S. Patent 4,602,164) (hereinafter "Gore"). Applicants respectfully traverse this rejection in light of the following remarks.

The cited art does not teach or suggest a single field replaceable unit wherein the processor, system memory, network interface, one or more drive controllers, and array of disk drives are packaged as a single field replaceable unit (FRU) so that the processor, system memory, network interface, one or more drive controllers, and array of disk drives are configured not to be individually field serviceable or field replaceable. In fact, both Railsback and Gore teach just the opposite. Railsback teaches the importance of scalability (p. 1) and describes that "the RaQ 3i has internal space for a second hard drive" and that "[o]ne major new feature of the RaQ 3i is the inclusion of a PCI slot" that "allows for even further system expansion" (p. 2). Thus, Railsback clearly stresses the importance of system expansion by being able to add (or swap) additional components in the field. Similarly, Gore teaches the field replacement of individual components in a system. Gore address the problem of replacing individual electronic components, or FRUs, within a system in a way that properly maintains the electromagnetic shielding of the system (Gore -- col. 1, lines 54-68, and col. 2, lines 3-7). The FRUs mentioned by Gore at col. 1, lines 42-48, are clearly individual components within a system. Thus, just like at p. 1, lines 11-25, in the Background of the Invention section of the present application, Gore describes the field replacement of individual electronic components of a system. Likewise, Railsback stresses the field expandability of the RaQ 3i. Therefore,

the cited art clearly teaches away from a single field replaceable unit in which a processor, system memory, network interface, one or more drive controllers, and array of disk drives are packaged as a single field replaceable unit (FRU) so that the processor, system memory, network interface, one or more drive controllers, and array of disk drives are configured not to be individually field serviceable or field replaceable.

Furthermore, the cited art does not teach or suggest an array of disk drives coupled to said one or more drive controllers and configured to be organized into one or more RAID logical volumes and presented to client machines as one or more filesystems through said network interface; wherein said processor, said system memory, said network interface, said one or more drive controllers, and said array of disk drives are packaged as a single field replaceable unit (FRU) so that said processor, said system memory, said network interface, said one or more drive controllers, and said array of disk drives are configured not to be individually field serviceable or field replaceable. The Examiner refers to p. 2 of Railsback. The only mention of an array of disk drives and RAID in Railsback are the following two sentences on p. 2 as follows: "The latter [external SCSI connector] lets you connect external drive enclosures and even RAID arrays to the server." and "Another expansion possibility for this slot would be a RAID array card, allowing you to add larger and more reliable storage to the system." In Railsback, a RAID drive array is an external add-on, not part of the RaQ 3i server. Thus, Railsback teaches just the opposite of packaging an array of disk drives with a processor, system memory, network interface, and one or more drive controllers as a single field replaceable unit (FRU) so that the processor, system memory, network interface, one or more drive controllers, and array of disk drives are configured not to be individually field serviceable or field replaceable.

In regard to claim 2, the cited art does not teach or suggest a motherboard, wherein said processor, said system memory, said network interface, said one or more drive controllers, and said array of disk drives are attached to said motherboard so as not to be field removable. The Examiner contends that these limitations of claim 2 are taught by Railsback. However, there is clearly no teaching in Railsback of a processor, system

memory, network interface, one or more drive controllers, and array of disk drives being attached to a motherboard so as not to be field removable. As discussed above, Railsback clearly teaches the drive array to added by separate expansion, and there is no teaching in Railsback that the other components are not also field removable. Railsback stresses the importance of salability and expandability. Likewise, Gore teaches the field replacement of individual electronic components of a system. Thus, the cited art actually teaches away from Applicants' claim 2.

In regard to claim 6, the Examiner asserts that as technology is evolving, systems are becoming faster and storage capabilities are continuing to increase in size. Based on this premise, the Examiner states that it would have been obvious for an array of disk drives in a single field replaceable unit to provide storage for at least a quarter of a terabyte of data. The rejection of claim 6 is improper. By considering the future evolution of storage systems, the Examiner is applying an improper timeframe for determining patentability. Patentability must be determined at the time of invention, not according to any future speculation. At the time of Applicants' invention, conventional wisdom on drive arrays that provided at least a quarter of a terabyte of data was to make each drive replaceable. Thus, at the time of Applicants' invention, it clearly would not have been obvious to include a drive array providing at least a quarter of a terabyte of data as a single field replaceable unit with a processor, system memory, network interface, and one or more drive controllers.

In regard to claim 12, contrary to the Examiner's assertions, there is no teaching in Railsback of the RaQ 3i server being configured to issue IP addresses to client machines. Railsback does mention configuring an IP address for the RaQ 3i server, but there is no mention of issuing IP addresses to client machines. Thus, the rejection of claim 12 is improper.

In regard to claim 13, the cited art does not teach that the number of physical disk drives of said array of disk drives is fixed in said single field replaceable unit so that additional physical disk drives cannot be added to said single field replaceable unit in the

field. Railsback teaches just the opposite by clearly referring to an internal disk drive expansion location on p. 2. The Examiner refers to the FRUs in Gore. However, as discussed above, the FRUs in Gore are individual electronic components of a systems. Thus, applying the teachings of Gore to those of Railsback would only suggest that the individual disk drives in Railsback could be field replaceable. The combination of Railsback and Gore clearly does not teach having a fixed number of disk drives.

In regard to claim 15, for reasons similar to those given above in regard to claim 1, the combination of Railsback and Gore does not teach or suggest a single field replaceable unit (FRU) comprising one or more processors, a network interface coupled to the one or more processors, and an array of disk drives coupled to the one or more processors and the network interface, wherein the array of disk drives is configured to be provided as one or more filesystems through the network interface, wherein the processor, the network interface, and the array of disk drives are configured not to be individually field serviceable or field replaceable.

In regard to claim 16, the combination of Railsback and Gore does not teach or suggest that the array of disk drives within the single field replaceable unit are configured into RAID logical volumes. As discussed above, the RAID array disclosed in Railsback is described as an expansion, not as part of the single field replaceable unit.

In regard to claim 18, arguments similar to those made above in regard to claim 6 apply.

In regard to claim 19, arguments similar to those made above in regard to claim 12 apply.

In regard to claim 20, arguments similar to those made above in regard to claim 13 apply.

In regard to claim 22, the RAID system in Railsback is described as an add-on, not as something that is pre-installed prior to shipping as part of a single filed replaceable unit. Also, for reasons similar as given above in regard to claim 1, the combination of Railsback and Gore clearly does not teach or suggest replacing the single field replaceable unit as a whole upon failure, wherein said single field replaceable unit has no serviceable internal parts, wherein the single field replaceable unit includes a processor, network interface and array of disk drives as a single field replaceable unit (FRU) so that the processor, network interface, and array of disk drives are configured not to be individually field serviceable or field replaceable.

In regard to claim 23, for reasons as discussed above, the combination of Railsback and Gore clearly teaches away from the storage capacity of the single field replaceable unit being not individually upgradeable. Gore teaches the replaceability of individual components of a system (which would allow for upgrades) and Railsback specifically teaches the desirability of an additional internal drive bay.

In regard to claim 24, the RAID system in Railsback is described as an add-on, not as part of a single filed replaceable unit. Also, for reasons similar as given above in regard to claim 1, the combination of Railsback and Gore clearly does not teach or suggest replacing the single field replaceable unit having an array of disk drives as a whole.

In regard to claim 26, arguments similar to those made above in regard to claim 16 apply.

In regard to claim 28, arguments similar to those made above in regard to claim 6 apply.

In regard to claim 29, arguments similar to those made above in regard to claim 13 apply.

In regard to claim 30, for reasons similar to those given above, the combination of Railsback and Gore clearly does not teach or suggest that each individual field replaceable storage unit is configured so that the one or more processors and the array of disk drives are configured not to be individually field serviceable or field replaceable so that failed ones of the individual field replaceable storage units are replaced in the enclosure as a whole.

In regard to claim 31, for reasons similar to those given above, the combination of Railsback and Gore clearly does not teach or suggest that wherein the processor, system memory, network interface, one or more drive controllers, and array of disk drives are packaged as a field replaceable unit (FRU), wherein the field replaceable unit is sealed to prevent the processor, system memory, network interface, one or more drive controllers, and array of disk drives from being separately field replaceable. To the contrary, Railsback teaches the expandability of its system, and the whole point of Gore is about how to provide a system that can be opened up to replace individual components.

The Office Action further rejected claims 3, 4 and 7 as unpatentable over Railsback in view of Gore and further in view of Lui, et al. (U.S. Patent 5,812,754) (hereinafter "Lui"), claim 5 as unpatentable over Railsback in view of Gore and in further view of Lui and Microsoft Computer Dictionary 3rd edition (hereinafter "Microsoft"), claims 8-11 as unpatentable over Railsback in view of Gore in further view of Edmonds, et al. (U.S. Patent 6,230,190) (hereinafter "Edmonds"), claim 14 as unpatentable over Railsback in view of Gore in further view of Stalley, et al. (U.S. Patent 5,663,868) (hereinafter "Stalley"), and claim 17 and 27 as unpatentable over Railsback in view of Gore and in further view of Microsoft. All of these rejections are flawed for at least the reasons given above in regard to the respective independent claims.

Applicants also assert that numerous ones of the dependent claims recite further distinctions over the cited art. However, since the independent claims have been shown to be patentably distinct, a further discussion of the dependent claims is not necessary at this time.

CONCLUSION

Applicants submit the application is in condition for allowance, and notice to that effect is respectfully requested.

If any extension of time (under 37 C.F.R. § 1.136) is necessary to prevent the above referenced application from becoming abandoned, Applicants hereby petition for such extension. If any fees are due, the Commissioner is authorized to charge said fees to Meyertons, Hood, Kivlin, Kowert, & Goetzel, P.C. Deposit Account No. 501505/5681-76600/RCK.

Also enclosed herewith are the following items:

☒ Return Receipt Postcard

☐ Petition for Extension of Time

☐ Notice of Change of Address

☐ Fee Authorization Form authorizing a deposit account debit in the amount of $ for fees ( ).

☐ Other:

Respectfully submitted,

Robert C. Kowert
Reg. No. 39,255
ATTORNEY FOR APPLICANT(S)

Meyertons, Hood, Kivlin, Kowert, & Goetzel, P.C.
P.O. Box 398
Austin, TX 78767-0398
Phone: (512) 853-8850

Date: July 12, 2004